

Impact of Diversity on Teamwork Satisfaction in Distributed Teams: Preliminary Results from an Online Survey

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Summary

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Introduction

- Research on distributed teams is very diversified, ranging from a technological perspective to a socio-dynamic view of the team; (*Evaristo et al., 2004; Lu et al., 2006*)
- In reality, several dimensions may interplay and impact the performance of a distributed team; (*Chudoba et al., 2005*)
- Few studies have compared the impact of fundamental dimensions (e.g. cultural diversity) with distributed teams' practices.

« Synchronizing the efforts of a virtual team does not happen magically. My priority is to build the kinds of working relationships where team members will freely share knowledge, leverage members' collective expertise (...) and feel confident that all team members are making a full-fledged contribution. »
(Cited in Malhotra et al. 2007.)

Research Background: Studies on Diversity

- Numerous differences can be found in distributed teams: nationality, gender, skills, cognitive processes, experience, etc.
(*Milliken and Martins, 1996; Carte and Chidambaram, 2004*)

Recent studies have provided mixed results about diversity.

- Positive impacts of diversity: it can increase creativity, innovation; it can provide access to a larger network of resources, to more information, etc.
- Negative aspects of diversity: communication difficulties, decreased cohesion, decreased performance, etc.

(*Staples and Zhao, 2006; Jehn et al., 1999; Hambrick et al., 1998*)⁴

Research Question

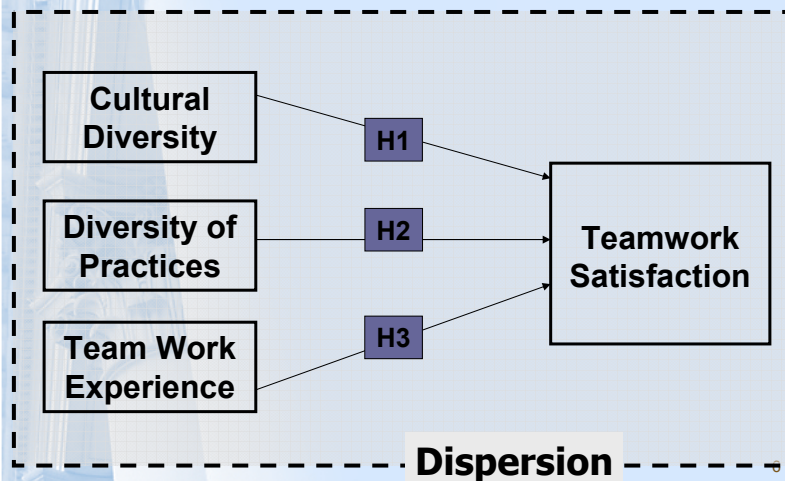
In the specific case of distributed teams...

What is the impact of diversity on teamwork satisfaction?

- To identify various types of diversity within distributed teams;
- To investigate the relative importance of diversities on team members' satisfaction;
- To evaluate the impact of dispersion indexes on the relationship between diversity and satisfaction.

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Research Model and Hypotheses



Research Model and Hypotheses

- Hypothesis (H1): **Cultural Diversity** impacts (negatively) teamwork satisfaction of distributed teams.
- Hypothesis (H2): **Diversity in Working Practices** impacts (negatively) teamwork satisfaction of distributed teams.
- Hypothesis (H3): **Team Work Experience** impacts (positively) teamwork satisfaction of distributed teams.

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Methodology and Data Collection

- Online questionnaire;
- Sample:
 - PMI Montreal members;
 - Professional associations.
- Criterion of eligibility: work experience in distributed projects;
- Selection of respondents : 128 valid questionnaires were compiled.

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Data Analysis

Description		Factor 1	Factor 2	Factor 3
Items reflecting diversity in the team:				
A	EQ10_a	Nationality	0.890	
	EQ10_b	Language	0.889	
	EQ10_c	Academic background	0.750	
	EQ10_d	Technical capability	0.819	
B	EQ10_f	Work methodology	0.760	
	EQ10_g	Communication tools	0.644	
	EQ10_h	Decision process	0.798	
	EQ10_i	Conflict resolution approach	0.769	
C	EQ11_j	Experience as a team		0.834
	EQ11_k	Experience in virtual teaming		0.795
Reliability (α Cronbach)		0.8605	0.7564	0.5732
Cumulative (%)		34.913	51.878	67.230

KMO Measure of sampling: 0.706

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Data Analysis

	Cultural Diversity	Work Practices Diversity	Team Work Experience
<i>(7 point Likert scales)</i>			
Mean	4.3725	4.1467	4.0841
Standard deviation	1.93928	1.39894	1.66356
Skewness	-0.291	-0.309	0.149
Kurtosis	-1.203	-0.591	-0.905
Minimum	1	1	1
Maximum	7	7	7

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Data Analysis

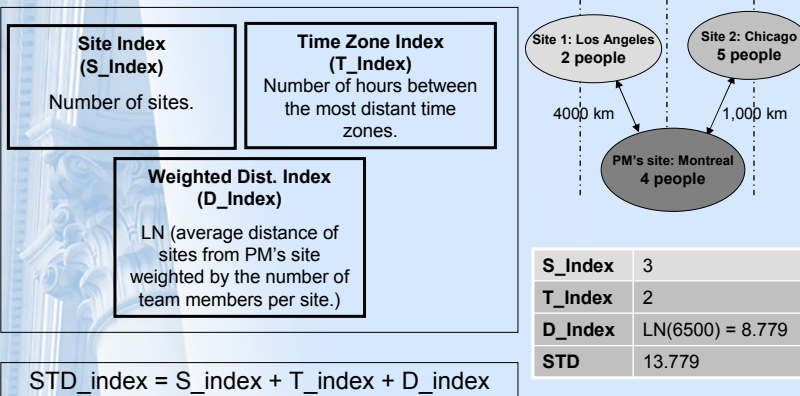
Description		MONOFACTOR
Items related to teamwork satisfaction:		
FB14	Common goal	0.790
FB15	Planning and organization	0.842
FB16	Meeting among dispersed members	0.760
FB17	Information availability/accessibility	0.835
FB18	Complex task, supported by ICT	0.813
FB19	Decision making	0.842
FB20	Conflict resolution	0.706
FB21	Project monitoring	0.867
FB22	Adapted working conditions	0.849
Reliability (α Cronbach)		0.9352
Variance explained (%)		66.087

KMO Measure of sampling: 0.901

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About Dispersion or “Distributedness”



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Results

Site Index						
	All		Low Dispersion		High Dispersion	
	Beta	Sign.	Beta	Sign.	Beta	Sign.
Number of Respondents	113		64		49	
Cultural Diversity	-0,179	0,0350 **	-0,271	0,0240	-0,027	0,4250
Working Practices Diversity	-0,297	0,0020***	-0,120	0,1965	-0,471	0,0010***
Team Work Experience	-0,117	0,1200	0,021	0,4400	-0,278	0,0265 **
% R ²	13,3		9,6		27,5	
% R ² Adj.	10,50		4,30		21,8	
p	0,0040		0,1570		0,006	

* p < 0.1; ** p < 0.05; *** p < 0.01; **** p < 0.0001 (one tail)

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Results

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Working Practices Diversity ^a	-0,297	0,0020***	-0,120	0,1965	-0,471	0,0010***
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^a t-test between low & high: p < 0.1

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Results

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Working Practices Diversity^a	-0,297	0,0020***	-0,120	0,1965	-0,471	0,0010***
Team Work Experience^a	-0,117	0,1200	0,021	0,4400	-0,278	0,0265 **
% R²	13,3		9,6		27,5	
% R² Adj.	10,50		4,30		21,8	
p	0,0040		0,1570		0,006	

^a t-test between low & high: p<0.1
 * p < 0.1; ** p < 0.05; *** p < 0.01; **** p < 0.0001 (one tail)

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Results

Time Zone Index						
	All		Low Dispersion		High Dispersion	
	Beta	Sign.	Beta	Sign.	Beta	Sign.
Number of Respondents	110		56		54	
Cultural Diversity	-0,179	0,0350 **	-0,146	0,1635	-0,197	0,0815 *
Working Practices Diversity	-0,297	0,0020***	-0,208	0,0870 *	-0,386	0,0040 ***
Team Work Experience	-0,117	0,1200	-0,076	0,3075	-0,129	0,1740
% R²	13,3		6,8		23,2	
% R² ADJUSTED	10,50		0,50		17,9	
P	0,004		0,3700		0,009	

* p < 0.1; ** p < 0.05; *** p < 0.01; **** p < 0.0001 (one tail)

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Results

STD Index						
	All		Low Dispersion		High Dispersion	
	Beta	Sign.	Beta	Sign.	Beta	Sign.
Number of Respondents	105		52		53	
Cultural Diversity	-0,179	0,0350 **	-0,197	0,1005	-0,193	0,0690 *
Working Practices Diversity^a	-0,297	0,0020***	-0,132	0,1990	-0,492	0,0000 ****
Team Work Experience^b	-0,117	0,1200	0,084	0,2935	-0,275	0,0175 **
% R²	13,3		7,6		36	
% R² ADJUSTED	10,50		0,90		31,4	
p	0,0040		0,3490		0,0000	

^a t-test between low & high: p < 0.10
^b t-test between low & high: p < 0.05
 **** p < 0.1; *** p < 0.05; ** p < 0.01; * p < 0.0001 (one tail)

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Conclusions

H1	Cultural Diversity impacts (negatively) teamwork satisfaction of distributed teams	Validated
H2	Diversity in Working Practices impacts (negatively) teamwork satisfaction of distributed teams	Validated
H3	Team Work Experience impacts (positively) teamwork satisfaction of distributed teams	Not validated

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Conclusions

Cultural diversity is associated with a lower satisfaction of team members', but no difference is found between highly dispersed teams and weakly dispersed teams.

Diversity in working practices is most likely to have the highest negative impact on team members' satisfaction (compared to cultural diversity). It is particularly so for highly dispersed teams.

Team Work Experience provides mixed results. In some cases, experience is even 'counter productive'. More research is needed.

Results slightly differ depending on the way dispersion is measured.

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Theoretical and Managerial Implications

- **Theoretical implications:**
 - Team diversities affect satisfaction to various degrees.
 - The way dispersion is measured can have a significant impact on results.
 - This exploratory study has mainly focused on the relative impact of three types of diversity within teams. More work is required to take into account other forms of diversity, other types of projects, etc.
- **Practical implications:**
 - Practitioners (upper management) need to pay more attention to diversities and to encourage the use of common practices.

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Thank you!

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